I-10 CORRIDOR PROFILE STUDY

SR 202L TO NEW MEXICO STATE LINE

ADOT Work Task No. MPD 031-16

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DRAFT WORKING PAPER 1: LITERATURE REVIEW

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Table of Contents

List of Figures

List of Tables

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Abbreviations and Acronyms

AADT	average annual daily traffic
ADOT	Arizona Department of Transportation
APlan	Arizona's web-based decision support tool that maps information for planning and project development
AZTDM	Arizona Travel Demand Model
bqAZ	Building a Quality Arizona
COG	council of governments
CPS	Corridor Profile Study
DCR	design concept report
DMS	Dynamic Message Sign
EB	eastbound
FHWA	Federal Highway Administration
FY	fiscal year
HSIP	Highway Safety Improvement Program
HOV	high-occupancy vehicle
I-8	Interstate 8
I-10	Interstate 10
I-11	Interstate 11
I-19	Interstate 19
I-17	Interstate 17
I-40	Interstate 40
LCCA	life cycle cost analysis
LRTP	Long range transportation plan
MAG	Maricopa Association of Governments
MP	milepost
mph	miles per hour
MPO	metropolitan planning organization
NDOT	Nevada Department of Transportation
P2P	Planning to Programming
PAG	Pima Association of Governments
SEAGO	SouthEastern Arizona Governments Organization
SR	State Route
TI	traffic interchange
TIP	transportation improvement program
US	U.S. Route
WB	westbound

1 Introduction

The Arizona Department of Transportation (ADOT) has identified 11 corridors considered essential in defining the overall health of the statewide transportation system, and is conducting a series of Corridor Profile Studies (CPSs) to plan for their desired performance. These studies will link the statewide plan, *What Moves You Arizona*, and the *Planning to Programming Linkage (P2P)*, which are part of a framework designed to integrate the planning and programming processes in a transparent, defensible, logical, and reproducible way.

The 11 corridors are being evaluated as three groups.

The first three studies (Round 1) began in spring 2014 and encompass:

- Interstate 17 (I-17): State Route (SR) 101L to Interstate 40 (I-40)
- Interstate 19 (I-19): Interstate 10 (I-10) to Mexico International Border
- Interstate 40 (I-40): California State Line to I-17

The second round (Round 2) of studies, initiated in spring 2015, include:

- Interstate 8 (I-8): California State Line to I-10
- I-40: I-17 to New Mexico State Line
- SR 95: I-8 to I-40

The third round (Round 3) of studies, started in fall 2015, include:

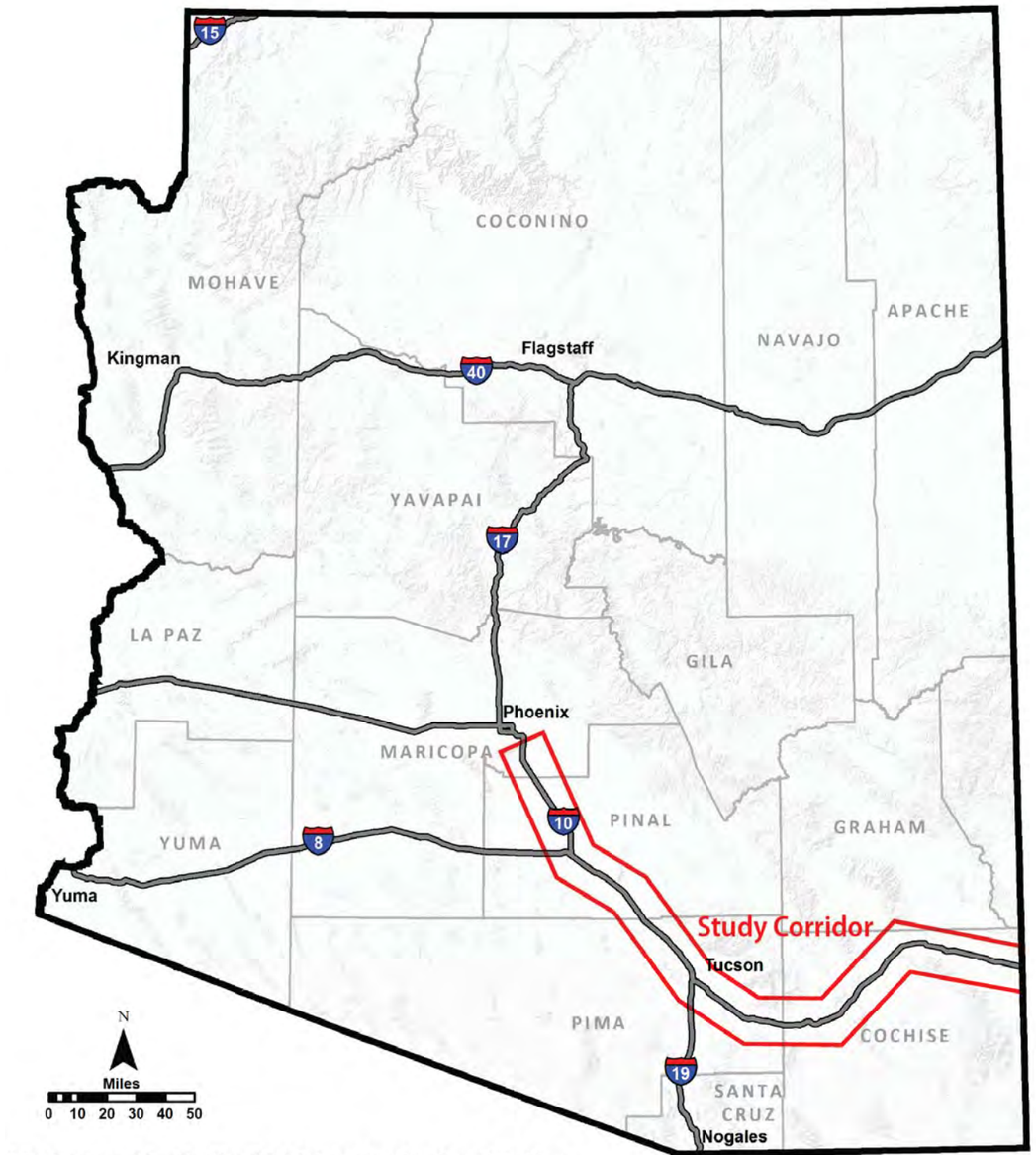
- I-10: California State Line to SR 85 and SR 85: I-10 to I-8
- I-10: SR 202L to New Mexico State Line
- SR 87/SR 260/SR 377: SR 202L to I-40
- U.S. Route (US) 60/US 70: SR 79 to US 191 and US 191: US 70 to SR 80
- US 93/US 60: Nevada State Line to SR 303L

Figure 1 shows I-10: SR 202L to New Mexico state line (I-10 East Corridor), one of the strategic statewide corridors identified and the subject of this CPS.

1.1 Study Purpose

The purpose of the I-10 CPS is to define a comprehensive corridor planning and programming approach to help make system-appropriate decisions. This is achieved by measuring corridor performance and using the findings to inform improvement solutions. Lifecycle cost analysis (LCCA) and risk assessment are applied in developing corridor recommendations.

Figure 1. Study Area Context



I-10 East Corridor Profile: SR 202L to New Mexico State Line
Study Area Context

This CPS, along with the 10 other corridors undergoing similar studies, will define a process to:

- inventory past improvement recommendations
- define a vision for the corridor's future
- assess the existing performance based on quantifiable performance measures
- propose various solution sets to improve corridor performance in light of the vision
- identify projects that provide quantifiable benefit relative to performance
- prioritize the projects for future implementation

1.2 Study Goals and Objectives

This study's primary objective is to identify a recommended set of potential projects for consideration in future construction programs, derived from a transparent, defensible, logical, and replicable process. The I-10 CPS will define solution sets and improvements that can be evaluated and ranked to determine which investments offer the greatest benefit to the corridor in terms of enhancing performance. Corridor benefits will be categorized by the following three investment types:

- **Preservation**: Activities that protect transportation infrastructure by sustaining asset condition or extending asset service life.
- **Modernization**: Highway improvements that upgrade efficiency, functionality, and safety without adding capacity.
- **Expansion**: Improvements that add transportation capacity through the addition of new facilities and or services.

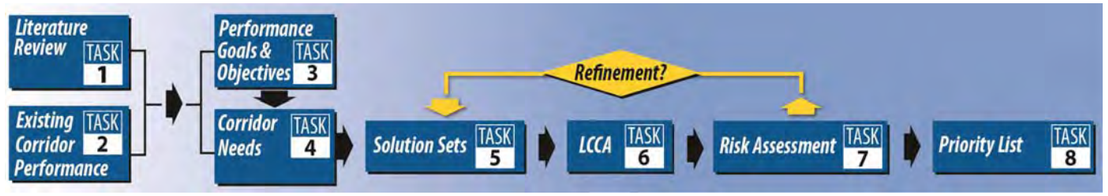
This study will identify potential actions to ensure that the I-10 corridor's performance remains at acceptable levels. Proposed actions will be compared based on their potential to achieve desired performance levels, their lifecycle costs, and their cost-benefit ratio to produce a prioritized list of projects that can achieve corridor goals. The following goals have been identified as the outcome of this study:

- link project decision-making and investments on key corridors to strategic goals
- match solutions with deficiencies in measured performance
- prioritize improvements that cost-effectively preserve, modernize, and expand transportation infrastructure

1.3 Study Process

The study process will be completed through eight tasks, as shown in Figure 2. Task 1 assesses work already completed in the corridor through a literature review (Working Paper 1). The existing corridor performance will then be determined (Task 2) based on the previous work findings and data collected for the identified performance areas (pavement, bridge, mobility, safety, and freight). A long-term vision will be developed that defines how the corridor is expected to function and what is likely to be its primary purpose (Task 3).

Figure 2. Corridor Profile Study Tasks



1.4 Working Paper 1 Overview

This working paper summarizes recent planning, environmental, design, and construction efforts on the I-10 East Corridor. This work (performed by ADOT and others) includes improvements and recommendations for the corridor to address its performance. Some of the specific improvement projects identified are also programmed for implementation. Task 1 will provide a basis for understanding the I-10 East Corridor's existing condition, to be assessed in Task 2, and recommended improvements will be incorporated into solution sets where they apply during Task 5. Task 1 includes the following activities:

Segmentation of the I-10 East Corridor: Segments were determined based on similar operating environments (including consideration of the highway's operating environment, number of lanes, level of activity, jurisdictional limits) to allow for the appropriate level of analysis.

Review of Corridor Planning, Environmental, Design, and Construction Efforts: A literature review was conducted, encompassing work occurring during the past 15 years. In addition to documenting this information in Working Paper 1, as appropriate, the approved studies will be linked to APlan so that all users can benefit from the comprehensive review.

Stakeholder Discussions: Information from ADOT Districts, ADOT technical staff, and local metropolitan planning organizations (MPOs) and councils of governments (COGs) helped identify previous work and provide historical knowledge difficult to fully capture in reports.

What tasks will be completed for the I-10 East Corridor Profile Study?

- **Task 1** assesses work already completed in the corridor through a literature review.
- **Task 2** determines existing corridor performance based on data collected for the identified performance areas (pavement, bridge, mobility, safety, and freight).
- **Task 3** develops long-term goals and objectives that define how the corridor can be expected to function, its primary purpose, and performance emphasis areas.
- **Task 4** determines corridor needs by comparing existing conditions with expected performance.
- **Task 5** formulates solution sets to raise performance levels throughout the corridor, with a focus on high-need areas.
- **Task 6** estimates the cost of solutions using LCCA and benefit-cost analysis to ensure a full understanding of how long-term costs can be managed.
- **Task 7** performs a risk-based assessment to ensure that the selected solution set is the most effective at enhancing corridor performance. Where necessary, solution sets can be modified to maximize their performance contribution.
- **Task 8** describes the strategic projects that make up the solution set using a Project Scoping Template.

1.5 Study Location and Corridor Segments

The I-10 East Corridor passes through three ADOT Districts (Central, South Central, and South East), four metropolitan planning areas (Maricopa Association of Governments [MAG], Sun Corridor Metropolitan Planning Area, Pima Association of Governments [PAG], and SouthEastern Arizona Governments Organization), and four counties (Maricopa, Pinal, Pima, and Cochise). This portion of I-10 travels through urban and rural areas (Figure 3).

The I-10 East Corridor was divided into 16 segments to allow for an appropriate level of detailed needs analysis, performance evaluation, and comparison between different corridor segments. Characteristics considered during segmentation of the corridor fell into three main categories:

- operating environment – characterization of facility (for example, “Urban 4-Lane Freeway”)
- roadway grade – terrain
- traffic conditions – traffic volume numbers or composition, presence of system traffic interchanges, and adjacent land uses

These corridor segments, including their I-10 milepost (MP) limits, are shown in Figure 4 and described in Table 1.

1.6 Corridor History

The I-10 corridor is the most heavily traveled corridor in Arizona, in terms of freight and general traffic. This east-to-west, transcontinental route connects through Arizona to California to the west and New Mexico and beyond to the east. I-10 is a key link in the regional, statewide, and national freight network, distributing goods between California and the Ports of Long Beach and Los Angeles at its western end and major Gulf ports to Florida at its eastern end. I-10 is one of Arizona’s Key Commerce Corridors. The I-10 East Corridor is the principal route connecting Phoenix and Tucson, Arizona’s most populated areas.

I-10 is the southernmost transcontinental highway in the National Highway System; its construction was authorized by the Federal Aid Highway Act of 1956. It stretches from the Pacific Ocean at SR 1 (Pacific Coast Highway) in Santa Monica, California, to Interstate 95 in Jacksonville, Florida.

The route between Phoenix and Tucson was laid out by the Arizona Highway Department in 1956 to 1958, paralleling historic transportation routes in the state. After exiting the Phoenix metropolitan area, I-10 continues south into Casa Grande, intersecting I-8 before heading southeast toward Tucson, paralleling the Santa Cruz River. In Tucson, after its junction with I-19, I-10 heads southeast toward Benson and Willcox before entering New Mexico, following a path roughly parallel to the Union Pacific Railroad’s Sunset Route, overlaying portions of old US 80. This section of I-10 across southern Arizona was built in the 1970s.

The last section of I-10 was completed in 1990 through downtown Phoenix, the Papago Freeway Tunnel (or Deck Park Tunnel, since the depressed section of freeway has a park on top). The bypass around Benson was opened in the late 1970s.

Picacho Peak as seen from I-10, South of Eloy

Source: Photo Scott Surgent (2007)

Figure 3. Project Vicinity and Segmentation

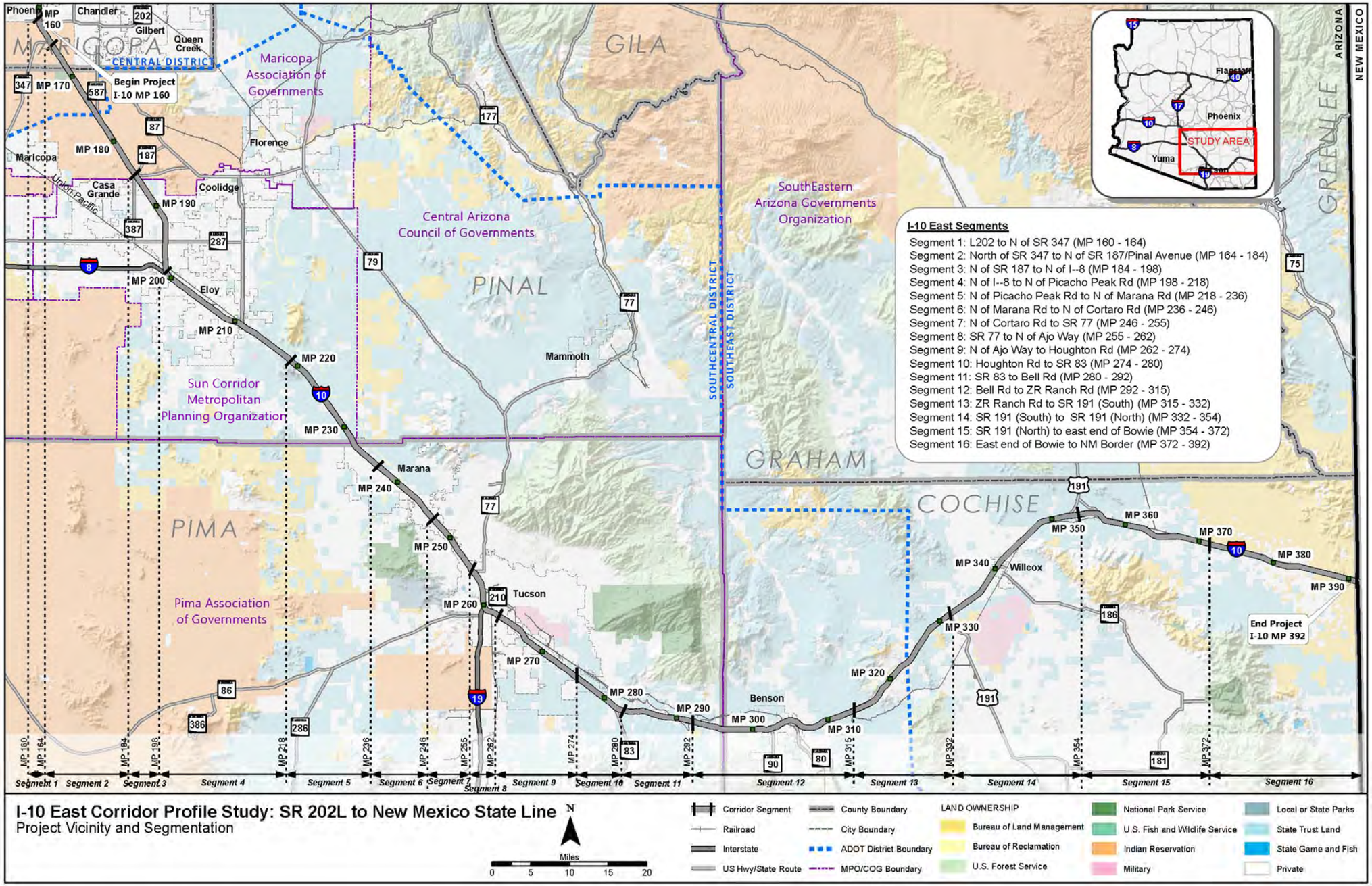


Table 1. Corridor Segment Descriptions

Segment	Begin	End	Begin MP	End MP	Length (miles)	Typical Through Lanes (EB/WB)	Avg. AADT[a]	Avg. Single-unit Truck	Avg. Multiunit Truck	Truck Percentage[b]	Character Description (described from west to east)
1	SR 202L (Santan Freeway)	North of SR 347	160	164	4	2–3/2–3	95,000	4,100	6,800	12	Begins at SR 202L (Santan Freeway) system traffic interchange; posted speed is 65 mph; characterized as "Urban Freeway." A lane drop occurs at about MP 162.5. South of Pecos Road, this segment leaves the Phoenix metropolitan area and traverses the Gila River Indian Community.
2	North of SR 347	North of SR 187/Pinal Avenue	164	184	20	2/2	51,800	2,100	5,200	14	Most of this segment is characterized as "Rural 4-Lane Freeway;" posted speed is 75 mph (begin MP 164). Rest areas are at MP 182 (EB) and MP 183 (WB). This segment is entirely within the Gila River Indian Community. Rising grade east of Gila River bridge crossing (MP 173) to end of segment.
3	North of SR 187/ Pinal Avenue	North of I-8	184	198	14	2–3/2–3	40,300	1,000	3,800	12	Most of this segment is characterized as "Urban or Rural 6-Lane Freeway;" widens to 3 lanes in each direction at MP 187; drops to 2 lanes at MP 197. Adjacent to urbanizing area of Casa Grande. This segment ends at I-8.
4	North of I-8	North of Picacho Peak Road	198	218	20	2–3/2–3	38,800	1,300	7,300	22	This segment encompasses several different operation environments ("Rural 4-Lane," "Urban 4-Lane," and "Urban or Rural 6-Lane Freeway"). The I-8 system traffic interchange is at MP 199. Portions of the segment are 2 lanes in each direction (west of MP 200 and between MPs 210 and 2012.5). Adjacent to Eloy.
5	North of Picacho Peak Road	North of Marana Road	218	236	18	3/3	41,900	800	7,600	20	Characterized as "Urban or Rural 6-Lane Freeway;" 3 lanes in each direction; posted speed of 75 mph. Area is largely rural, undeveloped desert; Union Pacific Railroad runs parallel on northern side of this segment, continuing to Tucson.
6	North of Marana Road	North of Cortaro Road	236	246	10	3/3	61,200	1,700	6,800	14	Characterized as "Urban or Rural 6-Lane Freeway;" 3 lanes in each direction; posted speed of 75 mph. Traverses Marana as freeway enters the Tucson urbanized area.
7	North of Cortaro Road	SR 77	246	255	9	3/3	108,500	3,900	8,700	12	Characterized as "Urban or Rural 6-Lane Freeway;" 3 lanes in each direction; posted speed decreases at MP 246 to 65 mph, and then again at MP 259 to 55 mph through Tucson.
8	SR 77	North of Ajo Way	255	262	7	3–4/3–4	117,600	4,500	9,900	12	Most of this segment is characterized as "Urban >6-Lane Freeway;" widens to 4 lanes in each direction at MP 255, before dropping a lane at MP 259 (I-19). This segment includes the system traffic interchange with I-19 and serves the urbanized Tucson area.
9	North of Ajo Way	Houghton Road	262	274	14	2–3/2–3	59,500	2,300	6,700	15	Characterized as "Urban 4-Lane Freeway;" drops to 2 lanes in each direction at MP 263; posted speed increases to 65 mph at MP 268, then to 75 mph at MP 271. The segment ends at Houghton Road, which is considered the eastern extent of the Tucson urbanized area; generally rural to the east.
10	Houghton Road	SR 83	274	280	6	2/2	34,200	1,200	5,500	20	Characterized as "Urban 4-Lane Freeway." The area is largely rural, with the exception of Vail (unincorporated place) at the SR 83 junction.
11	SR 83	Empirita Road	280	292	12	2/2	26,700	900	4,800	21	Characterized as "Rural 4-Lane Freeway >25K," posted speed reduced to 65 mph at MP 288 for approximately 1 mile. Exit 292 (Empirita Road) has an unconventional "folded diamond" interchange type.

Segment	Begin	End	Begin MP	End MP	Length (miles)	Typical Through Lanes (EB/WB)	Avg. AADT[a]	Avg. Single-unit Truck	Avg. Multiunit Truck	Truck Percentage[b]	Character Description (described from west to east)
12	Empirita Road	ZR Ranch Road	292	315	23	2/2	21,100	900	4,800	27	Characterized as “Rural 4-Lane Freeway <25K,” with the exception of the section west of the MP 302 (SR 90), which is “Rural 4-Lane Freeway <25K.” This segment traverses Benson.
13	ZR Ranch Road	SR 191 (South)	315	332	17	2/2	16,700	800	5,100	35	Characterized as a “Rural 4-Lane Freeway <25K.” This segment has steep grades eastbound (as high as 6 percent) and westbound (as high as 4 percent), causing considerable truck slowing; highest point on I-10 is at MP 321 (4,937 feet).
14	US 191 (South)	US 191 (North)	332	354	22	2/2	15,400	700	5,400	39	Characterized as a “Rural 4-Lane Freeway <25K;” traverses Willcox. US 191 is coincident with this segment of I-10.
15	US 191 (North)	Eastern end of Bowie	354	372	18	2/2	14,100	300	5,000	37	Characterized as a “Rural 4-Lane Freeway <25K.” At MP 362, the freeway makes a wide sweeping curve around Bowie, an unincorporated census-designated place.
16	Eastern end of Bowie	New Mexico State Border	372	392	20	2/2	12,200	400	4,300	39	Characterized as a “Rural 4-Lane Freeway <25K.” At MP 378, the freeway makes a wide sweeping curve around San Simon, an unincorporated census-designated place. The San Simon commercial vehicle port of entry is at MP 383, and a rest area is located at MP 388.

Notes: EB = eastbound, I-8 = Interstate 8, I-19 = Interstate 19, MP = milepost, mph = miles per hour, SR = State Route, WB = westbound

[a] Average annual daily traffic (AADT) is rounded to nearest 100.

[b] Truck percentage encompasses combined single- and multiunit trucks.

2 Literature Review

A literature review was conducted for planning and design studies related to the I-10 East Corridor over the past 15 years. The documents represent studies prepared by ADOT, MPOs and COGs, local agencies, and other resource management agencies with statewide or local interests. The studies encompassed the length of the I-10 East Corridor between its western terminus at SR 202L (Figure 5) and the eastern terminus at the New Mexico state line.

Table 2 summarizes these documents and highlights their key findings or recommendations. The studies are categorized as statewide planning studies, framework studies, regional planning studies, and feasibility and design concept reports.

Table 3 lists relevant recommendations from these studies, categorized by the "Recommended Investment Choice" as defined in the State's Long-range Transportation Plan—that is, preservation, modernization, and expansion. Figure 6 shows the recommendations on a map of the corridor.

Table 4 lists the construction projects (as reported in the ADOT *FAST* database) completed on the I-10 East Corridor in the past 5 years.

In addition to documenting this information in Working Paper 1, as appropriate, the approved studies will be linked to APlan so that all users can benefit from the comprehensive review.

Western Terminus of I-10 East Corridor at SR 202L in Phoenix

Source: Google Imagery (2015)

2.1 Statewide Planning Studies

The following statewide planning studies were reviewed:

- 2016–2020 Five-Year Transportation Facilities Construction Program
- ADOT Statewide Bicycle and Pedestrian Plan Update
- ADOT Climbing and Passing Lane Prioritization Study
- Statewide Dynamic Message Sign Masterplan
- ADOT Statewide Shoulders Study
- Arizona's Key Commerce Corridors
- Arizona Multimodal Freight Analysis Study
- Arizona Ports of Entry Study
- Arizona State Airports System Plan
- Arizona State Rail Plan
- What Moves You Arizona, Arizona Long-Range Transportation Plan 2010–2035
- Arizona Statewide Travel Demand Model (AZTDM)
- Building a Quality Arizona: 2010 Statewide Transportation Planning Framework
- Freight Analysis Framework
- Arizona's State Wildlife Action Plan: 2012–2022
- Arizona Wildlife Linkages Assessment

2.2 Framework Studies

The following framework studies were reviewed:

- Interstates 8 and 10 Hidden Valley Transportation Framework Study
- 2010 Statewide Rail Framework Study

2.3 Regional Planning Studies

The following regional planning studies were reviewed:

- Arizona Passenger Rail Corridor Study, Tucson to Phoenix
- I-10 Phoenix-Tucson Bypass Study
- Corridor Concept Report: I-11 and Intermountain West Corridor Study
- I-11 and Intermountain West Corridor Study: Southern Arizona Future Connectivity Corridor Feasibility Assessment Report
- Northwest Cochise County Long-Range Transportation Plan

- MAG 2035 Regional Transportation Plan (RTP)
- PAG 2040 RTP
- PAG 2040 RTP Update
- PAG 2016–2020 5-Year Regional Transportation Improvement Program
- PAG Regionally Significant Corridors Study
- PAG State Transportation System Mobility and Regional Circulation Needs Feasibility Study
- PAG Southeast Area Arterial Study
- PAG Short-Range Transit Program Implementation Plan: FY 2015–2019
- PAG High Capacity Transit System Plan
- Regional Transportation Authority Our Mobility Plan
- City of Benson General Development Plan
- City of Eloy General Plan
- Pima County Comprehensive Plan
- Sonoran Desert Conservation Plan
- Sonoran Corridor Alternatives Analysis
- Southwest Infrastructure Plan
- Pinal County Comprehensive Plan
- Pinal County Regionally Significant Routes for Safety and Mobility
- Pinal County Small Area Transportation Study
- Pinal County Transit Feasibility Study
- Southern Pinal County Regional Corridor Study (PARA)
- Plan Tucson, City of Tucson General and Sustainability Plan
- City of Willcox General Plan

2.4 Feasibility and Design Concept Reports

The following feasibility and design concept reports were reviewed:

- Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report
- I-10/Replacement Tangerine Traffic Interchange – Marana, Arizona, Final Design Concept Report
- Interstate 10 Corridor Study, Ina Road TI to Ruthrauff Road TI Final Design Concept Report
- Feasibility Report: Interstate 10: Junction Interstate 19 to State Route 83; State Route 210: Golf Links Road to I-10
- I-10 – Texas Canyon, MP 315 to Johnson Road TI, Final Design Concept Report
- I-19 San Xavier Road to I-10 Design Concept Report
- Interstate 10 Corridor Study, Tangerine Road to Ina Road Final Design Concept Report
- I-10 Val Vista To I-8 Final Project Assessment
- North-South Corridor Study

Table 2. Summary of Documents Reviewed

Study	Date Completed	Agency	Summary
			Statewide Planning
2016–2020 Five-Year Transportation Facilities Construction Program	June 2015	ADOT	The Five-Year Transportation Facilities Construction Program complies with Arizona Revised Statutes § 28-304, sets forth the short-term program for developing projects, and accounts for the expenditure of funds for the next 5 years. The program identifies the following projects specific to the I-10 corridor: **Highway Projects** • I-10, West of SR 587 • I-10, Kino Parkway TI Underpass Southbound Str#1163 and Northbound Str#1162 • I-10, Craycroft TIOP and Wilmot Rd TIOP, Str#594-#597 • I-10, Adams Peak Wash Str #1604 & #1605 • I-10, Dragoon Rd – Johnson Rd • I-10, Cochise TI • I-10, 10B West – 10B East, Bowie • I-10, Island Wash Bridge • I-10, SR 202L to Riggs Rd The first 2 years of the program are financially constrained by year. All projects in those years will be fully funded and ready to advertise within the year programmed or sooner, as determined by the State Transportation Board. The last 3 years of the program will be used to establish an implementation plan for projects moving through the various preparation phases needed prior to construction. http://www.azdot.gov/docs/default-source/planning/2016-2020-program.pdf?sfvrsn=8
ADOT Statewide Bicycle and Pedestrian Plan Update	June 2013	ADOT	The 2013 ADOT Statewide Bicycle and Pedestrian Plan Update builds on the long-term vision for a statewide system of interconnected and shared roadways and pedestrian and bicycle facilities offered in the 2003 plan. The 2012 update addresses the most critical bicycle and pedestrian transportation planning needs on the State Highway System and outlines strategies to meet the plan's goals and objectives for increased bicycle and pedestrian trips, safety, and infrastructure. ADOT will provide pedestrian grade separations consistent with the ADOT *Roadway Design Guide*, 107.2 – Pedestrian Facilities. An inventory of pedestrian crossings (overpasses and underpasses) identifies providing 48 pedestrian grade separations over state highways, including I-10; improving shoulders; and extending frontage roads to fill missing segments between Phoenix and Eloy. https://apps.azdot.gov/ADOTLibrary/Multimodal_Planning_Division/Bicycle-Pedestrian/Bicycle_Pedestrian_Plan_Update-Final_Report-1306.pdf
ADOT Climbing and Passing Lane Prioritization Study	February 2015	ADOT	The 2015 Climbing and Passing Lane Prioritization Study refined the methodology used in previous plans to identify locations where passing and climbing lanes would benefit drivers on the Arizona highway system and recommended a list of climbing and passing lane improvements for phased implementation. The study serves as an update to the 2003 study, reflecting more recent data on mobility, safety, and construction feasibility. The report describes the evaluation process, documents existing conditions, and proposes the construction of climbing and passing lanes in prioritized tiers. The following priority locations were identified on I-10: • Tier 1 – I-10 WB: MP 306 – MP 302 • Tier 2 – I-10 EB: MP 286 – MP 291 • Tier 3 – I-10 EB: MP 315 – MP 317 • Tier 3 – I-10 EB: MP 309 – MP 311 https://www.azdot.gov/docs/default-source/planning/climbingandpassinglane_executivesummary.pdf?sfvrsn=0
Statewide Dynamic Message Sign Masterplan	November 2011	ADOT	This study was completed by ADOT in 2011 to provide recommendations regarding the need for permanent dynamic message signs on Arizona's highway system. The study proposed new dynamic message signs on I-10 at mileposts 163, 163.5, 167.5, 174, 182, 191, 217, 224, 243.5, 245, 247.2, 247.9, 248, 251, 254, 266, 330, 343, and 360.2. https://www.azdot.gov/docs/default-source/business/dms-masterplan.pdf?sfvrsn=2
ADOT Statewide Shoulders Study	August 2015	ADOT	This 2015 ADOT study developed a prioritized list of candidate locations for shoulder improvements, with the ultimate purpose of enhancing safety and improving mobility. It identified proposed shoulder improvements for multilane highways. http://ntl.bts.gov/lib/56000/56100/56198/Statewide_Shoulders_Study-FR-1508-Part1.pdf

Study	Date Completed	Agency	Summary
Arizona's Key Commerce Corridors	March 2014	ADOT	The Key Commerce Corridors strategy implicitly emphasizes the importance of corridors for market access. The 20-year plan identifies the corridors critical to the promotion of trade and incorporates funding three areas of infrastructure improvements: corridors, borders, and bridges. The focused strategy identifies improvements to obtain the greatest benefit for Arizona and proposes to increase available funding. The original vision evolved into a framework to improve mobility and efficiency, economic development potential, and project-related job creation. Recommendations along I-10 include: • I-10 widening to 8 lanes between Cortaro Road and I-8 • I-10 widening to 6 lanes from I-19 to New Mexico border • 44 bridge infrastructure improvements along I-10 from Phoenix to New Mexico https://www.azdot.gov/docs/default-source/planning/arizona-key-commerce-corridors-final-report.pdf?sfvrsn=0
Arizona Multimodal Freight Analysis Study	2008	ADOT	ADOT completed the Multimodal Freight Analysis Study in 2008. This study addressed all modes of freight transportation in Arizona—trucking, rail, and aviation—to provide a detailed assessment of critical freight issues and emerging trends, as well as their relationship to transportation policy and infrastructure. From this information, infrastructure needs and deficiencies were identified, as was a recommended strategy for including freight analysis as part of Arizona's long-range planning process. The study resulted in one proposed new I-10 corridor western bypass alternative, referred to as "Route 4." Heading east, the Route 4 corridor would break away from I-10 near the current junction of I-10 and I-8 in Pinal County. Continuing southeast, the southern end of the corridor would reconnect with I-10 east of Tucson. http://ympo.org/docs/ADOT%20Multimodel_freight_analysis_study_FinalReport.pdf
Arizona Ports of Entry Study	July 2013	ADOT	This report evaluates the 22 fixed sites and 14 locations operated by personnel who manage and perform inspections, provide permits, and perform other related duties. (It does not cover the border with Mexico.) These ports of entry provide services to and enforce State and federal laws for interstate commercial vehicles entering and leaving Arizona. The report contains information related to current and future port conditions, as well as deficiencies and a set of recommendations for ADOT's port of entry operations over the next 20 years. It identifies I-10 as one of the corridors used for moving freight to and from Arizona. Specifically, it describes current conditions and deficiencies and identifies a cost of just over $20 million to upgrade the port of entry to support a proposed concept of operations using virtual and staffed management plans. http://repository.asu.edu/attachments/111922/content/Arizona%20Ports%20of%20Entry%20Study.pdf
Arizona State Airports System Plan	2008	ADOT	The State Airport System Plan establishes a vision and provides an outlook for the state's aviation needs through 2030. The system planning process is designed to ensure ADOT remains responsive to air transportation needs by identifying roles and characteristics for existing and new airports. As airports in Arizona continue to evolve to respond to changes in the communities they serve and aviation industry trends, the performance measures established in the plan serve as a guide for balanced development. Recommendations for I-10 include: • An I-10 bypass west of Tucson • New general-purpose lanes and high-occupancy vehicle lanes for portions of I-10 https://www.azdot.gov/planning/airportdevelopment/development-and-planning/state-airports-system-plan
Arizona State Rail Plan	March 2011	ADOT	As a follow-on step to the Statewide Rail Framework Study (part of the Building a Quality Arizona Statewide Transportation Planning Framework Program), ADOT initiated the preparation of a State Rail Plan that responds to the requirements of the 2008 Passenger Rail Investment and Improvement Act. The State Rail Plan is based on the research and findings of the Statewide Rail Framework Study, completed in October 2009. The State Rail Plan provides a 20-year implementation program and capital plan for statewide rail investment that includes the enhancement of freight rail infrastructure and identifies the steps to institute intercity passenger rail services along key routes. The State Rail Plan resulted in development of a Rail Action Plan for immediate, intermediate, and long-range time frames, together with funding strategies. The plan identifies the following four "corridors of opportunity" for freight and passenger rail improvements. Those that may be relevant to the I-10 corridor include: • Arizona Spine Corridor (existing) – north-to-south corridor linked by a series of major highways, including US 89, I-17, I-10, and I-19 • CANAMEX Corridor (proposed) – extends from Las Vegas to the international border with Mexico • Sunset Corridor (existing) – east-to-west corridor, generally following the Union Pacific Railroad Sunset Corridor, I-8, and I-10 http://www.azdot.gov/docs/planning/state-rail-plan.pdf
What Moves You Arizona, Arizona Long-Range Transportation Plan 2010–2035	November 2011	ADOT	ADOT's What Moves You Arizona is a 25-year transportation plan to guide future investments in transportation. The plan defines investment choices Arizona will make over a 25-year period to maintain and improve its multimodal transportation system. The report did not identify any specific project along I-10. The plan defines State transportation system goals, objectives, and performance measures. The performance measures link directly to the plan's goals and objectives and were established to understand the outcomes of transportation investments over the plan's horizon. https://www.azdot.gov/docs/default-source/planning/lrtp-2011-1129.pdf?sfvrsn=2

Study	Date Completed	Agency	Summary
Arizona Statewide Travel Demand Model (AZTDM)	2015	ADOT	Arizona Statewide Travel Demand Model Generation 2 (AZTDM2) is a four-step travel demand model built and maintained by ADOT to assess regional transportation needs in Arizona. Data from the AZTDM2 will be used in this study for traffic forecasting and travel demand modeling for I-10 East.
Building a Quality Arizona: 2010 Statewide Transportation Planning Framework	2010	ADOT	Building a Quality Arizona (bqAZ) was developed to identify Arizona's multimodal transportation needs through a 2050 planning horizon. The recommended framework included both multimodal transportation infrastructure investment recommendations and policies to help guide transportation decision making in Arizona. In addition to recommending a new Pinal County north-south freeway connection between US 60 (Apache Junction) and I-10 (Eloy), recommendations specific to I-10 include: • Widen I-10 to ten lanes between Phoenix and Tucson [Sun Corridor) • Widen all other Interstate Highways to six lanes in rural Arizona (i.e., I-10 Tucson to New Mexico state line) http://azmemory.azlibrary.gov/cdm/ref/collection/stateputs/id/8962
Freight Analysis Framework	2013	FHWA	The Freight Analysis Framework combines data from a variety of sources to create a comprehensive picture of freight movement among states and major metropolitan areas by all modes of transportation. The framework incorporates data from various industry sectors, including agriculture, extraction, utilities, construction, services, and other sectors. Although the framework does not make specific recommendations for routes such as I-10, these data are a valuable resource for transportation planners, and new data will be released in 2016. http://ops.fhwa.dot.gov/FREIGHT/freight_analysis/faf/index.htm
Arizona's State Wildlife Action Plan: 2012–2022	May 2012	AGFD	This State Wildlife Action Plan and Wildlife Linkages Assessment provide a 10-year vision for achievement, subject to adaptive management and improvement along the way. The plan covers the entire state, identifying wildlife and habitats in need of conservation and providing insight regarding the stressors to those resources. It suggests actions that can be taken to alleviate those stressors. Using the Habimap Tool that creates an interactive database of information included in the plan, the following were identified in relation to the I-10 corridor: • Wildlife waters are northeast of Picacho, southwest of I-10 from Ina Road to Grant Road, and northwest of I-10 from Dragoon Road to US 191. • I-10 bisects allotments/pastures from southeast of Picacho to the Pima/Pinal County line, and periodically from Colossal Cave Road to the Arizona-New Mexico border. These areas correspond primarily to State Land holdings, with areas closer to the Arizona-New Mexico border controlled by the Bureau of Land Management. • Areas of AZ Missing Linkages lie in and around areas of Potential Wildlife Linkages along I-10 from east of Picacho to Tucson, from east of Vail to west of Benson, and from east of Benson to the Arizona-New Mexico border. • Species and Habitat Conservation Guide indicates moderately sensitive habitats along I-10 from Casa Grande into Tucson and highly sensitive habitats east of Tucson to the Arizona-New Mexico border. • Moderate to high levels of Species of Economic and Recreational Importance are identified along I-10 throughout Casa Grande and spanning east toward the Arizona-New Mexico border. • Species of Greatest Conservation need are identified all along the I-10 corridor from Phoenix at SR 202L to the Arizona-New Mexico border. http://azgfdportal.az.gov/wildlife/actionplan/
Arizona Wildlife Linkages Assessment	December 2006	ADOT	This assessment, completed by a group of organizations and agencies (including ADOT) in 2006, identified key wildlife habitat corridors across Arizona, called "linkages," with the goal of promoting safe passage for wildlife across major roadway and other infrastructure corridors. The following linkages were identified as crossing I-10: **Between Phoenix and Tucson:** 79 (Ironwood–Tortolita) and 80 (Saguaro–Tortolita) **Between Tucson and Benson:** 94 (Rincons–Whetstone–Santa Rita) **Between Benson and the New Mexico state line:** 88 (Galliuro–Winchester–Dragoon); 89 (Wilcox Playa–Winchester–Pinaleno–Dos Cabezas); 90 (Pinaleno–Dos Cabezas–San Simon Valley) https://www.azdot.gov/docs/planning/arizona_wildlife_linkages_assessment.pdf?sfvrsn=7
Arizona Roadway Departure Safety Implementation Plan (RDSIP)	May 2012	FHWA	FHWA developed this implementation plan (in coordination with ADOT) with the goal of reducing roadway departure fatalities in Arizona by approximately 10-15 percent. The purpose of the plan is to propose low-cost countermeasures, key steps, schedules, and the investment needed as a basis for federal funding eligibility (HSIP funding). The plan proposed implementation (systematic or systemic) of the following low cost countermeasures coupled with targeted education and enforcement initiatives on roadways in Arizona based on 2004-2008 crash data: Rumble Strips (edge line, shoulder and/or centerline); guardrail upgrades; alignment delineation, lighting; curve signing and marking; high-friction surfaces; median barrier (cable median barrier); and tree removal. ADOT is currently evaluating the list of project locations to make specific project recommendations.

Study	Date Completed	Agency	Summary
			Framework Studies
Interstates 8 and 10 Hidden Valley Transportation Framework Study	October 2009	MAG	This study was completed by MAG in 2009 to establish a conceptual network of freeways, parkways, and arterial streets that could meet long-range travel demand in a large area south of Phoenix. The study area covered approximately 2,000 square miles in Maricopa and Pinal Counties, bounded by the Gila River on the north, I-8 on the south, the 459th Avenue alignment on the west, and I-10 on the east. The study made the following general recommendations relative to I-10: • I-10, SR 202L to I-8, is identified as an "Improved Freeway" with proposed high-occupancy vehicle lanes and four new potential traffic interchanges. • I-10 in the interim period (through 2030) would have 6 general purpose lanes. • I-10 at buildout would have 10 lanes (including 2 high-occupancy vehicle lanes). • The proposed new Hassayampa Freeway would connect with I-10 at a new system traffic interchange near Casa Grande. • The study noted that tribal approval would be needed for I-10 improvements occurring on tribal land. http://www.bqaz.org/hiddReports.asp?mS=m4
2010 Statewide Rail Framework Study	March 2010	ADOT	ADOT completed this study in 2010 to define a rail development program and investment strategy for Arizona that would promote a sustainable, multimodal transportation system for the movement of people and goods. It noted that previous studies had examined the potential for high-speed rail between Tucson and Phoenix. The study recommended supporting PAG's proposal for developing commuter rail along I-10 through Tucson. It also noted the wildlife habitat fragmentation issue posed by the combined I-10 and Union Pacific Railroad corridor through much of southern Arizona and recommended coordinating with the Arizona Game and Fish Department to address the issue. http://www.azdot.gov/docs/planning/rail-framework-study-final-report.pdf
			Regional Planning Studies
Arizona Passenger Rail Corridor Study, Tucson to Phoenix	September 2015	ADOT	The Tier I DEIS Passenger Rail Corridor Study was prepared to address the identified need for an alternative transportation mode to help meet existing and future travel demand in the Pima, Pinal, and Maricopa tri-county area. According to the study, travel time between Tucson and Phoenix will take 26 percent longer by 2035, and nearly 60 percent longer by 2050 – even with I-10 increased to 10-lanes. The recommended alternative would be located entirely along UP ROW or track parallel to I-10 from Tucson to about SR 87 (MP 211), where the alternative option(s) would deviate from the I-10 corridor to the north. The Final EIS is anticipated to be complete Spring 2016.
I-10 Phoenix-Tucson Bypass Study	2005	ADOT	The I-10 Phoenix-Tucson Bypass Study was developed to address existing and future traffic congestion in the two major metropolitan areas of Arizona by making a preliminary assessment of the need for and feasibility of a new transportation corridor that would provide an alternative to I-10 to divert through traffic out of the congested metropolitan areas. The study looked at a West Segment (Buckeye to Casa Grande) and an East Segment (Casa Grande to Willcox). One alternative was chosen for the West Segment, and a number of alternatives were selected for the East Segment. The study concluded that there is a need for an I-10 bypass; however, the study noted substantial opposition to the concept, in particular alternatives passing through the San Pedro Valley or Aravaipa Valley.
Corridor Concept Report: I-11 and Intermountain West Corridor Study	November 2014	ADOT and NDOT	This ADOT and Nevada Department of Transportation study, completed in 2014, aims to determine whether sufficient justification exists for a new high-capacity, multimodal transportation corridor (I-11) linking Arizona and Nevada and, if so, to identify likely routes for the corridor. The study identified I-10 between I-8 and I-19 as part of a recommended corridor alternative, while noting that the alignment for the corridor may vary from the existing I-10 location (to be determined in later studies). This stretch of I-10 is part of "Segment of Independent Utility 2," which extends along I-10 from I-8 to I-19, then follows I-19 south to the U.S.-Mexico border at Nogales. The study did not make specific recommendations for I-10, although it noted that parts of the corridor passing through congested areas such as downtown Tucson may need more significant improvements to handle future travel demand. http://i11study.com/IWC-Study/PDF/2014/I-11CCR_Report_2014-12_sm.pdf
I-11 and Intermountain West Corridor Study: Southern Arizona Future Connectivity Corridor Feasibility Assessment Report	July 2014	ADOT and NDOT	This study was completed by ADOT and the Nevada Department of Transportation in 2014 to examine potential routes for the new I-11 corridor, focusing on the area from the U.S.-Mexico border to just north of the intersection of I-8 and I-10 (near Casa Grande). It identified "Alternative C" as the corridor recommended for further analysis; this alternative encompasses I-10 between I-8 and I-19, along with land to the east and west of this portion of I-10. Further analysis would identify a specific alignment for the I-11 corridor. The study notes that travel demand forecasts show high levels of congestion on I-10 from approximately Marana to downtown Tucson by 2035. Given this poor level of service, I-10 would likely be unable to accommodate additional trade corridor traffic generated by the I-11 corridor. http://i11study.com/IWC-Study/PDF/2014/I-11_Southern-Arizona-Feasibility-Assessment-Report_07-28-2014.pdf

Study	Date Completed	Agency	Summary
Northwest Cochise County Long-Range Transportation Plan	2010	Cochise County	The Northwest Cochise County Long-Range Transportation Plan includes projects to address future deficiencies on the state highway system, projects to provide better connectivity, projects to improve access to transit services, and strategies to improve travel conditions for nonmotorized modes. Recommended projects include: adding capacity on heavily used state highways, integrating bicycle and pedestrian features, and implementing expanded transit services. Specific project relevant to I-10 include: • I-10, new service traffic interchange to replace the existing Skyline Road traffic interchange (2040) • I-10, widen I-10 to 6 lanes from Cochise/Pinal County line to B-10/4th Street exit (2040) http://apps.azdot.gov/ADOTLibrary/Multimodal_Planning_Division/Planning_Assistance_for_Rural_Areas_Studies/PARA-NW_Cochise_County_Long_Range_Transportation_Plan-FR-1009.pdf
MAG 2035 Regional Transportation Plan (RTP)	2014	MAG	The MAG 2035 RTP is a comprehensive, performance based, multimodal, and coordinated regional plan, covering the period through Fiscal Year (FY) 2035. The RTP is prepared by MAG, the regional planning agency for the Phoenix metropolitan area. In addition to identifying new corridors, the RTP calls for additional general-purpose and new high-occupancy vehicle lanes to be added to the regional freeway/highway system, including I-10. Specific projects along I-10 include: • I-10, SR 202L to Riggs Road, high-occupancy vehicle lane and general-purpose lane (FY 2019–2026) • I-10, Riggs Road to the MPA Boundary general purpose lane (FY 2019–2026) http://www.azmag.gov/Documents/RTP_2014-01-30_Final-2035-Regional-Transportation-Plan-(RTP)-Executive-Summary.pdf
PAG 2040 RTP	2010	PAG	PAG completed the 2040 RTP in 2010. The plan highlights I-10 as a major travel corridor through Tucson and Pima County and notes I-10's importance as the area seeks to become a major transportation and logistics hub for the freight industry. The plan notes that high population growth will occur at two areas along I-10: in Marana and in the southern and southeastern urbanized areas of Pima County. It discusses the development of loop parkways and the augmentation of freight rail infrastructure as strategies to relieve both commuter and freight traffic on I-10. The plan includes the following recommendations for I-10: **I-10 East Corridor** (I-19 east to Pima-Cochise County line) – Widen freeway to 6 to 10 lanes and reconstruct traffic interchanges. Add high-occupancy vehicle lanes. Add a wildlife crossing area. Add bus rapid transit on I-10 from Congress Street to Wentworth Road. **I-10 West Corridor** (I-19 north to Pima-Pinal County line) – Widen freeway to 8 lanes (much of the section was finished in 2009) and build new or reconstruct existing traffic interchanges. Add railroad grade separations at traffic interchanges. Add high-occupancy vehicle lanes. Add a wildlife crossing area. http://www.pagregion.com/documents/RTP/RTP2040/RTP-2040-Adopted.pdf
PAG 2040 RTP Update	March 2012	PAG	This update to the 2040 RTP was completed by PAG in 2012. It included the following additional recommendations for I-10: **I-10 West Corridor** (I-19 north to Pima-Pinal County line) – Widen freeway to 10 lanes between Prince Road and the Pima-Pinal County line. Add a new traffic interchange and railroad grade separation at Sunset Road. http://www.pagregion.com/documents/rtp/rtp2040/RTP-2040-Update-2012-06-29.pdf
PAG 2016–2020 5-Year Regional Transportation Improvement Program	May 2015	PAG	PAG completed the most recent Transportation Improvement Program (TIP) in 2015. The TIP is a 5-year schedule of proposed transportation capital improvements in the Tucson and Pima County urbanized area. Updated annually, the TIP addresses diverse improvements for the region's transportation system, including national, State, and local highways; transit; aviation; ride sharing; bicycle routes; and pedestrian facilities. I-10 projects included in the TIP are: • I-10 and Country Club Road traffic interchange (construct traffic interchange) • I-10 and Craycroft Road, I-10 and Wilmot Road (bridge deck rehabilitation) • I-10 East Corridor Study, I-19 east to Cochise County line • I-10 traffic interchange at Houghton Road • I-10 Houghton Road traffic interchange signalization • I-10 Ina Road bridge at Santa Cruz River (replace bridge structure) • I-10 Ina Road traffic interchange (reconstruct traffic interchange and construct railroad overpass) • I-10 Kino Parkway traffic interchange (bridge deck rehabilitation) • I-10 Kino Parkway traffic interchange • I-10 Park Avenue traffic interchange • I-10 Prince Road to Ruthrauff Road (widen to 8 lanes) • I-10 Ruthrauff Road traffic interchange (improve) • I-10 Wilmot, Kolb, Rita, and Vail Roads traffic interchange signalization http://www.pagregion.com/documents/tip/tip2016-2020/2016-2020TIP.pdf

Study	Date Completed	Agency	Summary
PAG Regionally Significant Corridors Study	January 2014	PAG	This PAG study, completed in 2014, assessed existing, planned, and proposed major transportation corridors in and around the PAG region that achieve broad regional objectives to improve access, mobility, and connections between various transportation modes. State highways under the jurisdiction of ADOT—including I-10—were identified as foundational elements of the Regionally Significant Routes network. No specific improvements for I-10 were identified in the study's final report. http://www.pagregion.com/documents/transportation/rsc/RSC-FinalReport-2014-01-28.pdf
PAG State Transportation System Mobility and Regional Circulation Needs Feasibility Study	2005, 2006	PAG	PAG completed several working papers for this study in 2005 and 2006. The study's principal purpose was to evaluate the need for and feasibility of developing a loop system of limited-, controlled-, and reduced-access roadways in the PAG region. While connectivity to I-10 was emphasized when discussing several of the potential loop routes, no specific improvements for I-10 were identified. http://www.pagregion.com/documents/Transportation/TranspoPlanning/Working_Paper_1.pdf http://www.pagregion.com/documents/Transportation/TranspoPlanning/Working_Paper_2.pdf http://www.pagregion.com/documents/Transportation/TranspoPlanning/Working_Paper_3.pdf
PAG Southeast Area Arterial Study	January 2006	PAG	This PAG study, completed in 2006, examined transportation infrastructure needs in the largely undeveloped area of southeastern Pima County. The study area was bounded by I-19 on the west, Valencia Road and I-10 on the north, SR 83 on the east, and the Santa Rita Experimental Range/Coronado National Forest on the south. The study produced a recommended major streets and routes plan that showed several new proposed parkways and major arterial streets that would connect with I-10 at existing traffic interchanges. http://www.pagregion.com/Portals/0/Documents/Transportation/SEAAS_final_Report_lores.pdf
PAG Short-Range Transit Program Implementation Plan: FY 2015–2019	January 2015	PAG	PAG completed the most recent Short-Range Transit Program Implementation Plan in 2015. The plan has two main functions: (1) coordinate regional transit planning by providing a 5-year schedule of capital and operating expenditures and (2) describe transit policies and processes used by regional leadership to make decisions regarding transit service. The plan shows Sun Tran express routes on the length of I-10 between Cortaro and Houghton Roads and a Sun Shuttle route on I-10 near Marana. http://www.pagnet.org/documents/transportation/SRTP-FY2015-2019.pdf
PAG High Capacity Transit System Plan	September 2009	PAG	This study made recommendations for developing a high-capacity transit system for the PAG region and was completed in 2009. It identified I-10 as one of sixteen potential high-capacity transit corridors, providing express bus service in the near term (within 10 years) and bus rapid transit in the mid term (within 10 to 20 years). In the long term (after 20 years), commuter rail is envisioned along I-10. http://www.pagnet.org/documents/transportation/PAGHCTSP-2009-09-FullReport.pdf
Regional Transportation Authority Our Mobility Plan	May 2015	RTA	This plan, completed by the RTA in 2015, provides information on planned transportation projects in Pima County that are funded by a countywide half-cent excise tax. The plan includes funding for the following projects associated with the I-10 corridor: • Silverbell Road at I-10 (including I-10 traffic interchange) • Barraza/Aviation Parkway, Palo Verde Boulevard to I-10: Advanced right-of-way funding for future connection of parkway with I-10 http://www.rtamobility.com/documents/OurMobilityMay2015.pdf
City of Benson General Development Plan	2015	City of Benson	The City of Benson General Development Plan is a general, long-range, comprehensive plan for the City. The Plan discusses the City's relationship with I-10, but does not include specific recommendations for the corridor. http://www.cityofbenson.com/vertical/sites/%7BF59197D1-30ED-49AE-8751-2EBA89C105BA%7D/uploads/2015_Final_Draft.pdf
City of Eloy General Plan	2009	City of Eloy	The Eloy General Plan provides the community with a comprehensive approach to guide future development in the community. No specific projects or needs are identified for I-10, but a stated objective of the Plan is to work with other government entities (including ADOT) to improve and maintain regional roads, including I-10. http://eloyaz.gov/133/Eloy-General-Plan
Pima County Comprehensive Plan	2015	Pima County	The 2015 update of the Pima County Comprehensive Plan, Pima Prospers, provides a plan and policy guidance for a 20-year planning horizon. The plan describes a work program that will be administered, monitored, and updated annually. No specific recommendations are made for I-10. The Plan projects that in 2035, Pima County will have an overall population of approximately 1.3 million (34.9 percent within the unincorporated area). http://webcms.pima.gov/government/pima_prospers/

Study	Date Completed	Agency	Summary
Sonoran Desert Conservation Plan	2000	Pima County	The Sonoran Desert Conservation Plan is an integration of natural resource protection and land use planning activities. The Plan's Biological Corridors and Critical Habitat element identifies wildlife corridors crossing I-10 both west and east of the Tucson metropolitan area. This wildlife corridor and critical habitat information augments the information identified in the Arizona Game and Fish Department's Arizona's State Wildlife Action Plan: 2012–2022 and the Arizona Wildlife Linkages Assessment. http://webcms.pima.gov/government/sustainability_and_conservation/conservation_science/the_sonoran_desert_conservation_plan/
Sonoran Corridor Alternatives Analysis	2013 (draft)	Pima County	The Sonoran Corridor is a planned highway connection between I-19 and I-10 in an area south of the Tucson International Airport. The corridor is planned to accommodate roadway and railway facilities to facilitate the movement of people and goods. Pima County has studied several alternative routes, all of which include a connection to I-10 at the Old Vail Connection Road. ADOT has designated the future corridor as a state route. The FAST Act identified the Sonoran Corridor as a High Priority Corridor on the National Highway System. http://webcms.pima.gov/cms/one.aspx?portalId=169&pageId=62649
Southwest Infrastructure Plan	2007	Pima County	This plan identified infrastructure improvements for Pima County's Southwest area to accommodate anticipated population growth. No specific recommendations are made for I-10, but widening of San Joaquin Road (from 2 to 4 lanes from SR 86 north to Sandario Road) "would also act as a bypass route to I-10 for travelers wishing to avoid travel on the freeway through the downtown area." http://webcms.pima.gov/cms/one.aspx?portalId=169&pageId=62649
Pinal County Comprehensive Plan	2009, updated 2014	Pinal County	The Pinal County Comprehensive Plan provides guidance for managing growth and preserving the quality of life of residents while promoting sustainability. The plan does not make specific recommendations for I-10, but recognizes additional widening (currently being planned) for an ultimate width of 5 lanes in each direction between Maricopa and Pima Counties. http://pinalcountyaz.gov/CommunityDevelopment/Planning/Documents/CompPlan/00%20Comprehensive%20Plan%202013.pdf
Pinal County Regionally Significant Routes for Safety and Mobility	2008	Pinal County	This plan describes the planning process for identifying routes throughout Pinal County that are regionally significant. Recognizing the protection of these routes is necessary to ensure mobility, the plan provides guidance for the County and stakeholders to preserve right-of-way for their protection and ultimate implementation. The plan does not make specific recommendations for I-10; however, it does identify routes that will intersect with I-10 and proposes interchanges (at these locations) where current plans and studies do not show an interchange. http://pinalcountyaz.gov/PublicWorks/TransportationPlanning/Documents/RSRSMFinalReport.pdf
Pinal County Small Area Transportation Study	2006	Pinal County	This study complemented the Pinal County Transportation Plan 2000 Update. The primary product of this study is a long-range transportation plan for all county roads; the study explicitly states that it does not include ADOT's highways or interstates. Website link not available.
Pinal County Transit Feasibility Study	2011	Pinal County	This feasibility study outlines steps that the County may take to develop components of a transit system. Specific recommendations are not identified for I-10; however, the study notes "Park and ride lots along I-10 south of Eloy could serve those traveling in the I-10 corridor, including to Phoenix and Tucson, and users of regional bus service to Eloy and Casa Grande." http://www.pinalcountyaz.gov/PUBLICWORKS/TRANSPORTATIONPLANNING/Pages/Transit.aspx
Southern Pinal County Regional Corridor Study (PARA)	July 2015	Pinal County	This study was conducted to address southern Pinal County's existing and future multimodal travel demand needs, identify market opportunities, evaluate priority investment areas, and identify improvements to the regional transportation system. The study notes that "several interchanges that were identified in the I-10 DCR were not deemed needed based on currently understood needs. Those are proposed for removal from the network or postponed until socioeconomic forecasts change to reflect higher growth in areas served by those interchanges." https://www.azdot.gov/planning/CurrentStudies/PARAStudies/southern-pinal-county-regional-corridor-study
Plan Tucson, City of Tucson General & Sustainability Plan	November 2013	City of Tucson	Plan Tucson is the General Plan for the City of Tucson. It identifies the "Downtown Links" project, which will connect Barraza-Aviation Parkway to I-10 to provide alternative access to downtown Tucson. No other I-10-related improvements are identified. https://www.tucsonaz.gov/integrated-planning/plan-tucson
City of Willcox General Plan	2009	City of Willcox	The Willcox General Plan recognizes the importance of I-10 and the three interchanges within the community, but identifies no recommendations related to the corridor. http://www.cityofwillcox.org/documents/City%20Of%20Willcox__General%20Plan_3.12.2009_Final.pdf

Study	Date Completed	Agency	Summary
Feasibility and Design Concept Reports			
Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report	2014	ADOT	The ADOT Interstate 10 Corridor Study, Junction I-8 to Tangerine Road DCR analyzed various improvement alternatives on I-10 from I-8 to Tangerine Road in Pinal and Pima Counties (also including a portion of I-8 west of the I-10/I-8 interchange). The goals of the DCR were to develop a long-range master plan for the I-10 Corridor in accordance with the approved regional and local transportation plans, to accommodate travel demand through the 2030 design year, to retain local access at existing interchanges while also identifying viable locations for future interchanges to enhance access to the I-10 corridor, and to minimize impacts or mitigate impacts the improvements may have on the surrounding community. The project provides the opportunity to implement a continuous one-way frontage road system from Junction I-8 to Tangerine Road. The vast majority of improvements relate to I-10, including: • widening I-10 to 5 general purpose lanes in each direction throughout the corridor • realigning the section of I-10 that passes through the community of Picacho (MP 210 to MP 213) • replacing or extending 12 bridge structures, 60 concrete box culverts, 27 concrete pipe culverts, and 53 corrugated metal pipe culverts along the main line, and the addition of a 50-foot wide linear ditch between the mainline and frontage road. (*Note: *These relatively minor associated improvements are not identified in Table 3.)* • reconfiguring the I-10/I-8 system interchange to provide high-speed directional ramps for all movements • removing the Jimmie Kerr Boulevard interchange and building a new interchange at Selma Highway (MP 197) • relocating the Sunland Gin Road interchange approximately ¼ mile east of its existing location • reconstructing or relocating all existing interchanges along the corridor, including Jimmie Kerr Boulevard, and Sunland Gin Road (mentioned previously), as well as: o Toltec Road (MP 204) o Sunshine Boulevard (MP 209) o SR 87 (MP 211) o Picacho Peak Road (MP 219) o Red Rock (MP 226) o Pinal Air Park (MP 231) o Marana (MP 236) • The preferred alternative has recommended locations for future interchanges at the following locations: o Overfield Road (MP 202) o Battaglia Drive (MP 206) o Picacho Highway (MP 213) o Greenes Road (MP 222) o Park Link Drive (MP 224) o Aries Drive (MP 229) o Tortolita Boulevard (MP 233) o Moore Road (MP 238)
I-10/Replacement Tangerine Traffic Interchange – Marana, Arizona Final Design Concept Report	2008	ADOT	The I-10/Replacement Tangerine Traffic Interchange – Marana, Arizona Final Design Concept Report analyzed various improvement alternatives for the traffic interchange at Tangerine Road in Pima County. The goals of the DCR were to develop a preferred alternative interchange for Tangerine Road and a separate bridge structure spanning the Union Pacific Railroad tracks, on the northeastern side of I-10. The proposed interchange replacement will be located on I-10 at MP 239. The recommended improvement consists of a compact diamond configuration on a new Tangerine Road alignment with an elevated bridge structure(s) across the existing railroad.

Study	Date Completed	Agency	Summary
Interstate 10 Corridor Study, Ina Road TI to Ruthrauff Road TI Final Design Concept Report	2013	ADOT	The Interstate 10 Corridor Study, Ina Road TI to Ruthrauff Road TI, Final Design Concept Report analyzed various improvement alternatives on I-10 from MP 247.5 to MP 253.4 in Pima County. The recommended alternative includes the following key roadway improvements: • Widening I-10 to 5 lanes in each direction plus auxiliary lanes between ramps (as part of the implementation strategy for the project, four through lanes in each direction will be constructed initially) • In addition, the study recommends reconstructing the existing interchanges along the corridor to accommodate the ultimate I-10 widening, including: o Ina Road o Orange Grove Road o Ruthrauff Road o Sunset Road
Feasibility Report, Interstate 10: Junction Interstate 19 to State Route 83; State Route 210: Golf Links Road to I-10	2012, updated 2015	ADOT	This feasibility report was prepared to identify and evaluate alternatives for the improvement of I-10 from the Junction of I-19 to SR 83 and the extension of the Barraza-Aviation Parkway (SR 210) from Golf Links Road to I-10. The purpose of extending SR 210 (connecting to I-10 somewhere between the existing Alvernon Way TI and the Rita Road TI south of Davis-Monthan Air Force Base) to an interchange with I-10 is to provide traffic originating east and south of downtown Tucson an alternative route to access the city center. The study recommendations for I-10 main line and interchange modifications from I-19 to SR 83 include: • I-10, from I-19 to I-10/SR 210 System Interchange: 4 lanes in each direction • I-10, from I-10/SR 210 System Interchange to Kolb Road: 6 lanes in each direction • I-10, from Kolb Road to Houghton Road: 5 lanes in each direction • I-10, Houghton Road to Wentworth Road: 4 lanes in each direction • I-10, Wentworth Road to SR 83: 3 lanes in each direction http://webcms.pima.gov/UserFiles/Servers/Server_6/File/Government/Transportation/Transportation%20Planning/Future%20Roadway%20Plans%20and%20Reports/I-10_SR%20210%20Feasibility%20Report%20(no%20appendix).pdf
I-10 – Texas Canyon, MP 315 to Johnson Road TI Final Design Concept Report	2014	ADOT	This DCR report evaluates future safety and capacity improvements to I-10 through the Texas Canyon area (from MP 315.4) to the westerly limits of Johnson Road (MP 322.4). The study includes adding eastbound and westbound climbing lanes, updating obsolete traffic interchange configuration and structures at Dragoon Road, and safety improvements to the roadway sections and the vertical alignment. In addition to improvements to the Dragoon Road traffic interchange, recommendations on the I-10 main line to be carried forward include: • I-10, eastbound climbing lane and safety improvements between MP 315.9 to MP 321.3 • I-10, westbound climbing lane and safety improvements between MP 315.4 to MP 322.4 • Wildlife linkage considerations to address wildlife connectivity were recommended by wildlife groups. These included making existing drainage crossings of I-10 as wildlife-friendly as possible and will also include potential sites for new wildlife passage structures to accommodate wildlife connectivity requirements.
I-19 San Xavier Road to I-10 Design Concept Report	2012	ADOT	This DCR describes the evaluation of capacity improvement alternatives along I-19 from MP 56.3 south of San Xavier Road to I-10. The project scope was expanded during project development to be extended to, but not include, the I-19/I-10 system traffic interchange. The recommended alternative includes two lane ramps at the westbound I-10 to southbound I-19 flyover on-ramp.
Interstate 10 Corridor Study, Tangerine Road to Ina Road Final Design Concept Report	2014	ADOT	This Final DCR evaluates and recommends improvements to increase the capacity of I-10 between Tangerine Road (MP 240.5) and Ina Road (MP 248.7), for a total length of approximately 8 miles. The improvements are phased; in Phase I, I-10 would be reconstructed to an 8-lane freeway with provisions for expanding to a 10-lane freeway in Phase II. Ultimate improvements include: • Expanding I-10 to add 2 travel lanes in both directions between Tangerine and Ina Roads (10-lane freeway) • Reconstructing the Avra Valley Road TI and lowering the I-10 profile • Reconstructing the Cortaro Road TI and lowering the I-10 profile http://azdot.gov/docs/default-source/projects/i10-ina-to-tangerine-final-dcr-feb2014.pdf?sfvrsn=2

Study	Date Completed	Agency	Summary
I-10 Val Vista To I-8 Final Project Assessment	June 2009	ADOT	The purpose of this final project assessment is to improve highway capacity, safety and operation I-10 from MP 186.7 to MP 199.5. Major aspects of the project include: • widening the existing four lanes to six lanes; • reconstruction of the mainline pavement from approximately Earley Road to Jimmie Kerr Boulevard; and, • construction of a new interchange at Selma Highway (MP 198); and, • removal of the existing interchange located at Jimmie Kerr Boulevard.
North-South Corridor Study EIS and L/DCR	(In Progress)	ADOT	The North-South corridor is a new, continuous north-south route through central Pinal County between US 60 (Apache Junction) and I-10 (Eloy). This North–South Corridor Study will result in the preparation of a Location/Design Concept Report (L/DCR) and an Environmental Impact Statement (EIS) for a proposed 45-mile-long transportation corridor in Pinal County, Arizona. The project is proposed to: relieve traffic on I-10; improve access to future activity centers; enhance transportation system linkages; create a more direct connection to the eastern portion of the Phoenix metropolitan area; perform functions and provide services identified in local, regional and statewide plans; address lack of capacity; improve the efficiency of existing freeway and arterial street networks; and provide right-of-way to accommodate a passenger rail line between Tucson and Phoenix (portions of the corridor are included in the Recommended Alternative of the Tier I DEIS Passenger Rail Corridor Study [2015])

Notes: ADOT = Arizona Department of Transportation, FHWA = Federal Highway Administration, I=10 = Interstate 10, I-11 = Interstate 11, I-17 = Interstate 17, I-19 = Interstate 19, MAG = Maricopa Association of Governments, MP = milepost, NDOT = Nevada Department of Transportation, PAG = Pima Association of Governments, RTA = Regional Transportation Authority, TI = traffic interchange, US = U.S. Route

Table 3. Relevant Recommendations

Reference No.	Begin MP	End MP	Length (miles)	Description	Preservation	Modernization	Expansion	Program Year	Project No.	Environmental Documentation (Yes/No)	Document(s)
1.	160	265	105	Widen to 5 lanes in each direction			X	—	—	—	Building a Quality Arizona: Statewide Transportation Planning Framework (2010)
2.	161	167	6	SR 202L to Riggs Road: Design HOV and general purpose lane		X	X	FY 2020	—[a]	—	ADOT 5-Year Program 2016–2020 and MAG 2035 RTP (2014)
3.	161	255*	79	Widen from 6 to 8 lanes			X	—	—	—	Arizona's Key Commerce Corridors (March 2014)
4.	163	163	5	Need for permanent dynamic message sign (DMS) at MP 163		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
5.	164	164	—	Need for permanent DMS at MP 163.5		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
6.	168	168	—	Need for permanent DMS at MP 167.5		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
7.	173	175	2	West of SR 587, pavement preservation	X			FY 2018	H892501C	—	ADOT 5-Year Program 2016–2020
8.	174	174	—	Need for permanent DMS at MP 174		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
9.	182	182	—	Need for permanent DMS at MP 182		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
10.	191	191	—	Need for permanent DMS at MP 191		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
11.	197	197	—	Jimmie Kerr Boulevard, remove TI; Selma Highway, add new TI		X	X	—	—	Y	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014); I-10 Val Vista To I-8 Final Project Assessment (2009)
12.	199	199	—	I-10/I-8, reconstruct system interchange		X		2030	—	—	Arizona's Key Commerce Corridors (March 2014)
13.	199	247	48	Between I-8 and Cortaro Road, widen to 8 lanes			X	2030	—	—	Arizona's Key Commerce Corridors (March 2014)
14.	199	240	41	Widen to 5 general-purpose lanes in each direction			X	2030	—	Y	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
15.	200	200	—	Sunland Gin Road TI relocated ¼ mile east of existing location		X	X	2030	—	Y	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
16.	202	202	—	Overfield Road, construct new TI			X	—	—	—	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
17.	204	204	—	Toltec Road, reconstruct TI		X	X	—	—	Y	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
18.	206	206	—	Battaglia Drive, construct new TI			X	—	—	—	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)

Reference No.	Begin MP	End MP	Length (miles)	Description	Preservation	Modernization	Expansion	Program Year	Project No.	Environmental Documentation (Yes/No)	Document(s)
19.	209	209	—	Sunshine Boulevard, reconstruct TI		X	X	—	—	Y	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
20.	210	213	3	I-10 realignment through the community of Picacho		X		2030	—	Y	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
21.	211	211	—	SR 87, reconstruct TI		X	X	—	—	Y	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
22.	213	213	—	Picacho Highway, construct new TI			X	—	—	—	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
23.	217	217	—	Need for permanent DMS at MP 217		X		—	—	Y	Statewide Dynamic Message Sign Masterplan (2011)
24.	219	219	—	Picacho Peak Road, reconstruct TI		X	X	—	—	Y	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
25.	222	222	—	Greenes Road, construct new TI			X	—	—	—	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
26.	224	224	—	Park Link Drive, construct new TI			X	—	—	—	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
27.	224	224	—	Need for permanent DMS at MP 224		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
28.	226	226	—	Red Rock, reconstruct TI		X	X	—	—	Y	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
29.	229	229	—	Aries Drive, construct new TI			X	—	—	—	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
30.	231	231	—	Pinal Air Park, reconstruct TI		X	X	—	—	Y	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
31.	233	233	—	Tortolita Boulevard, construct new TI			X	—	—	—	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
32.	236	236	—	Marana, reconstruct TI		X	X	—	—	Y	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
33.	238	238	—	Moore Road, construct new TI			X	—	—	—	Interstate 10 Corridor Study, Junction I-8 to Tangerine Road Design Concept Report (2014)
34.	240	240	—	Tangerine Road, reconstruct TI		X	X	—	—	Y	I-10/Replacement Tangerine Traffic Interchange – Marana, Arizona Final Design Concept Report (2008)
35.	240	248	8	Widen to 5 general-purpose lanes in each direction			X	—	—	—	Interstate 10 Corridor Study, Tangerine Road to Ina Road Final Design Concept Report (2014)
36.	242	242	—	Avra Valley Road, reconstruct TI and I-10 profile lowering		X	X	—	—	Y	Interstate 10 Corridor Study, Tangerine Road to Ina Road Final Design Concept Report (2014)

Reference No.	Begin MP	End MP	Length (miles)	Description	Preservation	Modernization	Expansion	Program Year	Project No.	Environmental Documentation (Yes/No)	Document(s)
37.	243	243	—	Need for permanent DMS at MP 243.5		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
38.	245	248	—	Need for permanent DMS at MP 245		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
39.	247	247	—	Need for permanent DMS at MP 247.2		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
40.	248	248	—	Need for permanent DMS at MP 247.9		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
41.	248	248	—	Cortaro Road, reconstruct TI and I-10 profile lowering		X	X	—	—	Y	Interstate 10 Corridor Study, Tangerine Road to Ina Road Final Design Concept Report (2014)
42.	248	248	—	Need for permanent DMS at MP 248		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
43.	248	248	—	Ina Road Bridge at Santa Cruz River, replace bridge structure		X		2016–2017	—	—	PAG 2016–2020 5-Year Regional Transportation Improvement Program
44.	248	248	—	Ina Road, reconstruct TI		X	X	2016–2025	—	—	Interstate 10 Corridor Study, Ina Road TI to Ruthrauff Road TI Final Design Concept Report (2013); Draft PAG 2045 Regional Transportation Plan (RTP) Update (January 2014)
45.	248	252	4	Ina Road to Ruthrauff Road, widen to 8 lanes			X	2016–2035	—	Y	Interstate 10 Corridor Study, Ina Road TI to Ruthrauff Road TI Final Design Concept Report (2013); Draft PAG 2045 Regional Transportation Plan (RTP) Update (January 2014)
46.	248	252	4	Ina Road to Ruthrauff Road, widen to 10 lanes			X	—	—	Y	Interstate 10 Corridor Study, Ina Road TI to Ruthrauff Road TI Final Design Concept Report (2013)
47.	250	250	—	Orange Grove Road, reconstruct TI		X	X	2025–2035	—	—	Interstate 10 Corridor Study, Ina Road TI to Ruthrauff Road TI Final Design Concept Report (2013); Draft PAG 2045 Regional Transportation Plan (RTP) Update (January 2014)
48.	251	251	—	Sunset Road, reconstruct TI		X	X	2025–2035	—	—	Interstate 10 Corridor Study, Ina Road TI to Ruthrauff Road TI Final Design Concept Report (2013); Draft PAG 2045 Regional Transportation Plan (RTP) Update (January 2014)
49.	251	251	—	Need for permanent DMS		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
50.	252	252	—	Ruthrauff Road, reconstruct TI		X	X	2016–2015	—	—	Interstate 10 Corridor Study, Ina Road TI to Ruthrauff Road TI Final Design Concept Report (2013); Draft PAG 2045 Regional Transportation Plan (RTP) Update (January 2014)
51.	254	254	—	Need for permanent DMS		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)

Reference No.	Begin MP	End MP	Length (miles)	Description	Preservation	Modernization	Expansion	Program Year	Project No.	Environmental Documentation (Yes/No)	Document(s)
52.	260	391	31	I-19 to New Mexico border, widen to 6 lanes			X	2035	—	—	Arizona's Key Commerce Corridors (March 2014)
53.	259	263	4	I-19 to Kino Parkway, widen to 8 lanes			X	2025–2035	—	—	Draft PAG 2045 Regional Transportation Plan (RTP) Update (January 2014)
54.	260	265	5	I-19 to SR 210, widen to 8 lanes			X	—	—	—	Feasibility Report Interstate 10: Junction Interstate 19 to State Route 83; State Route 210: Golf Links Road to I-10 (2015)
55.	265	392	127	Widen to 3 lanes in each direction			X	—	—	—	Building a Quality Arizona: Statewide Transportation Planning Framework (2010)
56.	265	270	5	SR 210 to Kolb Road, widen to 12 lanes			X	—	—	—	Feasibility Report Interstate 10: Junction Interstate 19 to State Route 83; State Route 210: Golf Links Road to I-10 (2015)
57.	262	262	—	Park Avenue, reconstruct TI		X	X	2020	—	—	PAG 2016–2020 5-Year Regional Transportation Improvement Program; Draft PAG 2045 Regional Transportation Plan (RTP) Update (January 2014)
58.	263	263	—	Kino Parkway Bridge, replacement and rehabilitation	X	X		FY 2016	H877201C	Y	ADOT 5-Year Program 2016–2020
59.	263	263	—	Kino Parkway, reconstruct TI			X	2035–2045	—	—	Draft PAG 2045 Regional Transportation Plan (RTP) Update (January 2014)
60.	264	264	—	Country Club Road, reconstruct TI		X	X	2016–2025	—	—	Draft PAG 2045 Regional Transportation Plan (RTP) Update (January 2014); PAG 2016–2020 5-Year Regional Transportation Improvement Program
61.	265	270	5	Alvernon Road to Kolb Road, widen to 8 lanes			X	2025–2045	—	—	Draft PAG 2045 Regional Transportation Plan (RTP) Update (January 2014)
62.	266	266	—	Need for permanent DMS		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
63.	268	268	2	Craycroft Road, bridge replacement and rehabilitation	X	X		FY 2017	H877401C	—	ADOT 5-Year Program 2016–2020; PAG 2016–2020 5-Year Regional Transportation Improvement Program
64.	269	269	2	Wilmot Road, bridge replacement and rehabilitation	X	X		FY 2017	H877401C	—	ADOT 5-Year Program 2016–2020
65.	270	270	—	Kolb Road, reconstruct TI		X		2035–2045	—	—	Draft PAG 2045 Regional Transportation Plan (RTP) Update (January 2014)
66.	270	274	4	Kolb Road to Houghton Road, widen to 6 lanes			X	2025–2035	—	—	Draft PAG 2045 Regional Transportation Plan (RTP) Update (January 2014)
67.	270	274	4	Kolb Road to Houghton Road, widen to 10 lanes			X	—	—	—	Feasibility Report Interstate 10: Junction Interstate 19 to State Route 83; State Route 210: Golf Links Road to I-10 (2015)

Reference No.	Begin MP	End MP	Length (miles)	Description	Preservation	Modernization	Expansion	Program Year	Project No.	Environmental Documentation (Yes/No)	Document(s)
68.	274	279	4	Houghton Road to Wentworth Road, widen to 8 lanes			X	—	—	—	Feasibility Report Interstate 10: Junction Interstate 19 to State Route 83; State Route 210: Golf Links Road to I-10 (2015)
69.	274	274	—	Houghton Road, reconstruct TI		X		2016–2019	—	—	PAG 2016–2020 5-Year Regional Transportation Improvement Program; Draft PAG 2045 Regional Transportation Plan (RTP) Update (January 2014)
70.	279	281	2	Wentworth Road to SR 83, widen to 6 lanes			X	—	—	—	Feasibility Report Interstate 10: Junction Interstate 19 to State Route 83; State Route 210: Golf Links Road to I-10 (2015)
71.	281	288	7	Junction SR 83 Highway, safety improvement		X		FY 2015	H866101C	—	ADOT 5-Year Program 2015–2019
72.	281	288	7	Junction SR 83 to MP 288, pavement preservation	X			FY 2015	H868901C	—	ADOT 5-Year Program 2015–2019
73.	284	284	—	Davidson Canyon WB Bridge, replacement and rehabilitation	X	X		FY 2015	H841101C	—	ADOT 5-Year Program 2015–2019
74.	286	291	5	Addition of EB climbing lane			X	—	—	—	ADOT Climbing and Passing Lane Prioritization Study (2015)
75.	292	298	6	Marsh Station, safety improvement		X		FY 2015	H805201C	—	ADOT 5-Year Program 2015–2019
76.	292	298	6	Marsh Station to County Line, pavement preservation	X			FY 2015	H805201C	—	ADOT 5-Year Program 2015–2019
77.	296	301	5	Mescal Rd to Junction SR 90, pavement preservation	X			FY 2015	H866601C	—	ADOT 5-Year Program 2015–2019
78.	296	303	7	Cochise/Pinal County line to B-10/ 4th Street Exit, widen to 6 lanes			X	2040	—	—	Northwest Cochise County Long-Range Transportation Plan (2010)
79.	299	299	—	Skyline Road, new TI		X		2040	—	—	Northwest Cochise County Long-Range Transportation Plan (2010)
80.	302	306	4	Addition of WB climbing lane			X	High priority	—	—	ADOT Climbing and Passing Lane Prioritization Study (2015)
81.	309	309	—	Adams Peak, wash bridge scour protection	X			FY 2016	H854501C	—	ADOT 5-Year Program 2016–2020
82.	309	311	2	Addition of EB climbing lane			X	—	—	—	ADOT Climbing and Passing Lane Prioritization Study (2015)
83.	315	317	2	Addition of EB climbing lane			X	—	—	—	ADOT Climbing and Passing Lane Prioritization Study (2015)

Reference No.	Begin MP	End MP	Length (miles)	Description	Preservation	Modernization	Expansion	Program Year	Project No.	Environmental Documentation (Yes/No)	Document(s)
84.	316	321	2	Addition of EB climbing lane and safety improvements			X	—	—	Y	I-10 – Texas Canyon, MP 315 to Johnson Road TI Final Design Concept Report (2014)
85.	315	322	7	Addition of WB climbing lane and safety improvements			X	—	—	Y	I-10 – Texas Canyon, MP 315 to Johnson Road TI Final Design Concept Report (2014)
86.	316	322	6	Dragoon Road, safety improvement		X		FY 2016	H823001C	Y	ADOT 5-Year Program 2016–2020
87.	321	321	—	Texas Canyon Rest Area preservation	X			FY 2015	H821101C	Y	ADOT 5-Year Program 2015–2019
88.	330	330	—	Need for permanent DMS		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
89.	331	331	2	Cochise TI, construct improvements		X		FY 2017	H853401C	—	ADOT 5-Year Program 2016–2020
90.	343	343	—	Need for permanent DMS		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
91.	360	360	—	Need for permanent DMS		X		—	—	—	Statewide Dynamic Message Sign Masterplan (2011)
92.	363	368	5	East Dragoon Road to Johnson Road, pavement preservation	X			FY 2018	H891001C	—	ADOT 5-Year Program 2016–2020
93.	383	383	—	San Simon Port of Entry, main line screening		X		—	—	—	Arizona Ports of Entry Study (2013)
94.	383	383	—	San Simon Port of Entry, port technology and other physical improvements		X		—	—	—	Arizona Ports of Entry Study (2013)
95.	389	398	—	Island Wash bridge, construct scour retrofit	X			FY 2018	HXXXX01C	—	ADOT 5-Year Program 2016–2020

Notes: EB = eastbound, FY = fiscal year, HOV = high-occupancy vehicle, I-8 = Interstate 8, I-10 = Interstate 10, MP = milepost, TI = traffic interchange, WB = westbound
[a] not applicable

BQAZ: Statewide Transportation Planning Framework, 2010

widen to 10 lanes
1

widen to 6 lanes
55

Arizona's Key Commerce Corridors, 2014

widen to 8 lanes
3, 13

widen to 6 lanes
52

I-10 Corridor Study, 2013 Ina Rd TI to Ruthrauff Rd TI Final DCR

widen to 10 lanes
46

PAG 2045 RTP Update, 2014

widen to 8 lanes	widen to 8 lanes	widen to 8 lanes	widen to 6 lanes
45	53	61	66

Feasibility Report, 2015
I-10: I-19 to SR 83; SR 210: Golf Links Rd to I-10

widen to

8 lanes	12 lanes	10 lanes	8 lanes	6 lanes
54	56	67	68	70

I-10 Study, 2014: I-8 to Tangerine Rd DCR
widen to 10 lanes*
14

EXISTING CONDITIONS

I-10 East Corridor Segments

Segment I-10E-1: L202 to North of SR 347 (MP160–164)
Segment I-10E-2: North of SR 347 to North of SR 187 (Pinal Avenue) (MP164–184)
Segment I-10E-3: North of SR 187 (Pinal Avenue) North of I-8 (MP184–198)
Segment I-10E-4: North of I-8 to Picacho Peak Road (MP198–218)
Segment I-10E-5: Picacho Peak Road to North of Marana Road (MP218–236)
Segment I-10E-6: North of Marana Road to North of Cortaro Road (MP236–246)
Segment I-10E-7: North of Cortaro Road to SR 77 (MP246–255)
Segment I-10E-8: SR 77 to North of Ajo Way (MP255–262)
Segment I-10E-9: North of Ajo Way to Houghton Road (MP262–274)
Segment I-10E-10: Houghton Road to SR 83 (MP274–280)
Segment I-10E-11: SR 83 to Bell Road (MP280–292)
Segment I-10E-12: Bell Road to ZR Ranch Road (MP292–315)
Segment I-10E-13: ZR Ranch Road to SR 191 (MP315–332)
Segment I-10E-14: SR 191 (South) to SR 191 (North) (MP332–254)
Segment I-10E-15: SR 191 (North) to East End of Bowie (MP354–372)
Segment I-10E-16: East End of Bowie to New Mexico Border (MP372–392)

Corridor Segment
US Hwy/State Route
County Boundary
Railroad
City Boundary

Corridor Improvement
Preservation
Modernization
Expansion

Traffic Interchange Improvement

Spot Improvement

Notes: Lane widening recommendations are shown for main line and do not include HOV lanes.
XX = MAP ID in Table 3

N
Miles
0 5 10 15 20

I-10 East Corridor Profile Study: SR 202L to New Mexico State Line

Figure 4. Corridor Recommendations from Previous Studies

Table 4. Projects Constructed on I-10 East Since 2010

Project No.	TRACS No.	Begin MP	End MP	Date Completed	Description	Construction Cost ($000s)	Type of Project
010-D-(217)T	H861401C	209.9	213.0	April 2015	Pinal County; La Palma Road to Picacho Highway; pavement preservation (micro-surface)	600	Preservation
010-D-(205)T	H769602C	210.9	213.0	July 2014	Pinal County; SR 87 to Town of Picacho; seeding project (for dust control mitigation)	266	Preservation
ARRA-010D(204)A	H710601C	213	218.7	November 2012	Pinal County; Town of Picacho to Picacho Peak; roadway widening	17,300	Expansion
ARRA-010D(206)A	H640401C	260	267.2	May 2011	Pima County; I-19 to Valencia Road extension of Intelligent Transportation System	3,100	Modernization
010-D-(215)T	H855601C	260	260	In progress	Pima County; I-19 to Craycroft Road; rehabilitation and replacement of signs on the main line, crossroads, and frontage roads	1,050	Modernization
010-E-(209)T	H806501C	267	272	December 2012	Pima County; Valencia TI to Rita Road; milling and replacing asphalt pavement, asphalt surface, fog coat, crack sealing, pavement markings, guardrail improvements, and other related items	4,390	Preservation
010-F-(217)T	H837101C	381	381.7	April 2014	Cochise County; San Simon River Wash; constructing scour protection, concrete floors under bridges (#1167, #1168, and #230), placing shotcrete, and other related items	470	Bridge preservation
010-E-(200)N	H650401C	300	303.8	February 2014	Cochise County; SR 90 TI; reconstructing the I-10/SR 90 TI, realigning and reconstructing I-10 main line west of the TI, and constructing three access roads	27,602	Major capacity/ operational spot improvements

Notes: I-10 = Interstate 10, I-19 = Interstate 19, MP = milepost, TI = traffic interchange, SR = State Route

3 Conclusion

Stakeholders are engaged in the CPS efforts to assist in obtaining data and relevant information; provide technical guidance, information, and response to issues; and assist the CPS teams with technical decisions while providing feedback and input.

The I-10 East Corridor Round 3 study held three meetings with stakeholders to engage them in the process; each of these meetings and the salient points of discussion are summarized below.

3.1 Agency Kick-off Meeting

An agency kick-off meeting for the Round 3 CPSs was held on November 17, 2015. The meeting provided an overview of the studies, the purpose of the studies, and study expectations, which were:

- develop performance-based solutions that can be evaluated through the statewide P2P process
- address needs in strategic locations that provide the most value for the investment
- develop tools that ADOT can use to track corridor performance and levels of need over time
- provide initial statewide comparison of needs across all 11 strategic corridors

The specific corridors were described and the overall CPS process was detailed. During the discussion, a question was posed relating to the I-10 East Corridor; specifically, what were the criteria that helped determine the corridor segments, particularly with regard to Tucson, where numerous variations in the operating environment exist. Segmentation throughout the corridor was developed based on a number of factors, including lanes, jurisdiction, average annual daily traffic, speed, and segment length. It was noted that the segmentation would be revisited with stakeholders to determine whether any changes should be made to improve consistency among the segment variables

3.2 South East District Discussion

An ADOT South East District meeting was held on December 8, 2015. The meeting was held in combination with the US 60/US 70/US 191 CPS team.

A summary of the topics discussed relevant to the I-10 East Corridor are noted here (full meeting notes are included in Appendix A).

- MP 322 to MP 332 could be considered as a separate segment because it is generally a lowlands area (less grades, out of high country with fewer weather issues).
  [Note: An adjustment was made following the meeting to Segments 11 and 12 to address this issue.]
- I-10 between SR 83 and SR 90 could use 3 lanes in each direction. (Note: the *I-10 – Texas Canyon, MP 315 to Johnson Road TI Final DCR* indicates that based on congestion alone, 4-lanes would be adequate for 20-years or more)
- Many of the bridges that cross I-10 are old and/or are under-height; any new or reconstructed bridge along I-10 or crossing I-10 be at least 6 lanes wide (even if striped for less).
- Intelligent Transportation System infrastructure, especially dynamic message signs, is very useful, and more is merited. The dynamic message signs are especially useful when winter storms shut down the Interstate in New Mexico.
- The Texas Canyon Rest Area is popular with truck drivers and motorists. At night, trucks fill parking, extending out onto ramps and backing up to the highway. If the rest area can be maintained, it will need additional parking. If additional parking cannot be accommodated, consider decommissioning the existing rest area and relocating it to a location where adequate parking can be accommodated and water is adequate for use (an issue at the Texas Canyon Rest Area).
- Several trumpet-type interchanges exist along I-10; these ramps are not conducive to trucks and oversize loads that regularly use I-10.
- The SR 90/Benson area experiences the highest number of Arizona Department of Public Safety escorted overweight, overheight, and overwidth loads (different types require different routes). I-10 is occasionally shut down (once or twice a year) to accommodate these vehicles.
- Large loads must traverse SR 80 to get around Benson; Davis Road sees one to three oversize loads a day diverted from I-10.
- An overtopping event occurred at approximately MP 298 about 10 years ago due to culvert clogging.
- The Bowie/Sandstone interchanges could be combined; Bowie Spur no longer serves any purpose.
- The San Simon Port of Entry lacks adequate space for vehicles to maneuver.
- The J-Six Ranch Road (MP 297) and Skyline Road (MP 299) interchanges could be combined, linking routes with the frontage road.

3.3 Central and Southern District Discussion

An ADOT Central and Southern District discussion (with invitations extended to representatives of the SouthEastern Arizona Governments Organization, Sun Corridor Metropolitan Planning Organization, and MAG) was held on December 15, 2015. The meeting was a teleconference.

A summary of the topics discussed relevant to the I-10 East Corridor are noted here (full meeting notes are included in Appendix A).

- A pavement preservation project was recently completed from SR 202L to Riggs Road; no additional work is programmed along the I-10 East Corridor in the Central District.
- Additional programmed projects to be considered include:
  - MP 196 – West Early Road to I-8 widening (2023)
  - MP 209 – SR 87 traffic interchange widening and reconstruction (2022)
  - MP 248 – Ina Road new traffic interchange and widening (2016)

- MP 252 – Ruthrauff Road new traffic interchange and widening (2018)
- MP 275 – Houghton Road traffic interchange (2019)
- Bridge deck rehabilitations at Kino, Craycroft, and Wilmot Roads
- Signal projects at the traffic interchanges at Craycroft, Wilmot, Kolb, Rita, Vail, and Houghton Roads
    - Consider making Segment 9 consistent with DCR that is under way; instead of MP 280, may want to consider Houghton Road as the dividing MP, which is a more urbanized segment. *[Note: An adjustment was made following the meeting to Segments 11 and 12 to address this issue.]*
    - East of Houghton Road will likely stay at 2 lanes (in each direction) for the foreseeable future.
    - ADOT Multimodal Planning Division is considering a Tier I EIS for the Sonoran Parkway (SR 410), included in the recently enacted FAST Act. This project is likely to get under way in early 2016.
    - The segment of I-10 between Picacho Peak (I-8) and Tucson has seen considerable attention; a number of planning studies and previous corridor studies were completed for this reach.
    - In terms of near-term construction (next 5 years), the focus will be on the western portion of I-10 (west of I-19), Marana and northwest Tucson. Beyond the next 5 years (next 5 to 10 years), the focus will likely be on the eastern side of I-19, specifically the interchanges that have been programmed.
    - An issue that came up on the previous I-19 CPS was that congestion issues are often related to the traffic interchanges. In many instances the main line operations are fine; however, the traffic interchanges and ramp configurations show the problems. Primarily operation issues at the ramp intersections with the cross streets; we will continue to see this into the fringe urban areas. As development increases, the traffic interchanges built in the 1960s are not holding up. Ramp termini need to be widened, bridges need to be reconstructed and widened, and diamonds need to be increased in terms of capacity. An example is Houghton Road, an area that has experienced significant development—the ramps are deficient and, on occasion, traffic backs up on the main line.
    - The MP 331 traffic interchange ramps project (westbound ramps) was added to construct diamond-style ramps for oversize loads. Project requires a ($1 million) 6-mile-long relocation of fiber optic lines.
    - Discussed broader outreach with stakeholders, similar to what was done for I-19 CPS. In that case, a call was put out to stakeholders, including logistics companies from Tucson to Nogales. The team provided a brief presentation and then had a question-and-answer session and discussion. Project team will follow up to arrange for an early 2016 discussion, once corridor performance information is available.

3.4 Next Steps

The next steps in the CPS process will be to collect and analyze relevant data, identify current needs, and develop goals and performance objectives for the corridor. The previously recommended projects documented in this working paper will be used as a baseline for project recommendations, although current data will be used to verify need and priority. These recommendations will help the team understand the corridor, ultimately building the foundation for identifying strategic corridor investments in the categories of preservation, modernization, and expansion in the performance areas of pavement, bridge, mobility, safety, and freight. The identified strategic investments will be considered with other candidate projects in the ADOT programming process.

View to Southeast Across I-10 to the Eastbound Texas Canyon Rest Area Truck Parking

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